

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of)
)
Amendment of Parts 22, 90, and 94 of) WT Docket No. 95-70
the Commission's Rules to Permit)
Routine Use of Signal Boosters)

TO: The Commission

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REPLY COMMENTS OF UTC

Pursuant to Section 1.415 of the FCC's Rules, UTC hereby submits its Reply to certain of the Comments filed in response to *the Notice of Proposed Rule Making (NPRM)*, FCC 95-204, released June 22, 1995, in the above-captioned proceeding.

UTC submitted Comments in general support of the FCC's proposal to authorize the routine use of narrowband (Class A) and broadband (Class B) signal boosters by licensees of Part 22 common carrier paging operations in the 931-932 MHz band, Part 90 land mobile radio systems in bands above 150 MHz, Part 90 paging operations at 929-930 MHz, and Part 94 multiple address systems (MAS) in the 928-860 MHz band. UTC noted the potential uses of such devices in improving signal coverage for various types of radio systems used by electric, gas and water utilities and natural gas pipelines.

However, UTC questioned the proposed limit of 500 mW total output power as being inconsistent with the power levels of signal boosters on the market today as well as being unnecessarily restrictive, particularly when boosters are used in RF-controlled

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environments, such as in tunnels, mines or power plants. UTC also recommended that, in lieu of a licensing requirement: (1) each booster device should be marked with a conspicuous label that identifies the owner of the device, either by name and telephone number or call sign of the primary station(s) being amplified; and (2) that each licensee employing a booster should be required to maintain with its primary station records, and make available to the FCC staff or relevant frequency coordinators, a list of the locations of all boosters associated with that station.

Discussion

Comments were overwhelmingly in favor of authorizing the use of signal boosters in the radio services proposed in the *NPRM*.¹ As discussed below, there were only three principal areas on which commenters offered recommendations for changes in the rules as proposed: (1) power limits for signal boosters; (2) licensing/registration procedures; and (3) use of boosters in the 450-470 MHz band.

¹ Allen Telecom Group, p. 1; Arch Communications Group/Airtouch Paging, pp.2-7; Motorola, pp.1-3; Personal Communications Industry Association (PCIA), pp.3-4; Celwave, p.2; Nextel Communications, Inc., pp.1-3; American Petroleum Institute (API), pp.3-5; TX RX Systems, Inc., pp.3-5; Telecommunications Industries Association (TIA), pp.1-2; RAM Mobile Data USA Limited Partnership, pp.1-3; Geotek Communications, Inc., p. 2; and American Mobile Telecommunications Association, Inc. (AMTA), pp. 4-5.

1. Power Limits On Signal Boosters Should Be Raised

Most commenters addressing the power limits argued that the proposed limits are too restrictive.² The commenters argue variously that boosters should be authorized to operate with as much power as the associated primary transmitter;³ that limits should be set at up to 3-5 watts;⁴ or that power limits should be specified by reference to effective radiated power (ERP), not output power.⁵ Only one commenter explicitly supported the FCC's proposed limit on output power.⁶

UTC concurs with the majority of commenters that the proposed limit on output power is unnecessary, overly restrictive, and inconsistent with typical power levels currently used in these devices. To the extent authorization of higher power increases the potential for interference, UTC recommends that this potential be addressed through operational restrictions that will help ensure that higher power levels are only used when needed and that any interference that is caused can be quickly detected and corrected. For example, use of higher output powers could be restricted to situations in which (1) the licensee is only amplifying signals for which it is the exclusive licensee, or (2) the

² Allen Telecom Group, pp. 1-2; Arch/Airtouch, pp. 7-8 ; Motorola, pp. 3-4; Celwave, pp. 3-6; API, p. 5-6; TX RX Systems, pp. 6- 14; TIA, p. 3-4; RAM, pp. 3-5; and UTC, pp. 3-4.

³ Allen Telecom Group, pp.1-2; RAM, pp. 3-4 (but only for narrowband boosters used with 900 MHz SMR authorizations); TX RX Systems, p. 7.

⁴ Motorola, p. 3-4; Celwave, p. 3; TIA, p. 3; RAM, p. 5

⁵ Celwave, p.3; TIA, pp. 3-4

⁶ AMTA, pp. 6-7.

booster is installed in an RF-controlled environment, such as in a tunnel, mine, or power plant. In addition, and as explained below, adoption of procedures for the prompt identification of boosters and their owners will help to ensure that interference can be quickly mitigated.

2. Registration of Signal Boosters Will Aid in Detecting and Correcting Interference Sources

The commenters agreed with the FCC's proposal to allow the deployment of signal boosters without separately licensing each booster. However, a significant number of commenters recommended that procedures should be adopted to facilitate the identification of signal boosters and their owners should interference be detected. Among the proposals were: (1) requiring licensees to maintain records of booster locations that would be made available to other licensees in the event interference is encountered;⁷ (2) requiring licensees who use boosters to notify the FCC so that an appropriate entry can be made in the FCC's licensing database;⁸ (3) requiring licensees to advise the FCC by letter of the particulars of booster deployment for inclusion in the primary station's file at the FCC;⁹ and/or (4) requiring direct notification to other potentially affected licensees.¹⁰

UTC agrees with these commenters that licensees who deploy signal boosters should have some affirmative obligation to assist in the identification of errant boosters.

⁷ Motorola, p. 4; UTC, pp. 4-5.

⁸ Nextel, p. 6; Geotek, pp. 4-5; PCIA, p. 6

⁹ AMTA, p. 8.

¹⁰ PCIA, p. 6

At a *minimum*, licensees should be required to maintain an updated list of boosters they have deployed and the location of these devices, which list must be made available to the FCC staff, and to other licensees or frequency coordinators upon reasonable request. UTC also agrees that a letter designation associated with the station class in the FCC's licensing records would also help in identifying the users of signal boosters. This could be treated as a "minor" modification of license for which no particular form is required or prior FCC action required prior to implementing the modification. Finally, UTC renews its request that some form of identification be affixed to each signal booster to aid in interference resolution. While most Part 90 licensees are required to transmit a call sign, which call sign would be retransmitted by an associated signal booster, Part 94 transmitters are not required to transmit a call sign. Moreover, in the case of a broadband signal booster, it might be difficult to determine which of the retransmitted signals are those of the booster's owner. A simple labeling requirement would allow someone to promptly identify and contact the booster's owner so that corrective measures could be taken.

3. There is No Need to Restrict Use of Signal Boosters in the 450-470 MHz Band

SpaceLabs Medical, Inc. and Hewlett-Packard Company (HP) argue that because of the presence of low power medical telemetry devices on offset channels in the 450-470 MHz band, use of signal boosters by primary licensees must be either prohibited or severely restricted. SpaceLabs argues that, despite their secondary status, low power medical telemetry devices must have protection from co-channel and adjacent channel operations. It further argues that licensees proposing to deploy boosters in the 450-470

MHz band should be required to specifically notify all hospitals and health care facilities at least 60 days prior to deployment, and that in the case of a dispute, a booster may not be operated pending FCC action on the hospital's complaint. HP raises similar concerns, arguing instead that Class B "broadband" boosters should not be permitted in the 450-470 MHz band, and that Class A "narrowband" boosters should be permitted in that band only on a waiver basis, after notice to nearby hospitals.

Although UTC is sensitive to the needs of the health care community, the manufacturers of these devices should not be allowed to hold the entire 450-470 MHz band hostage simply due to the extreme sensitivity of their very low power devices. As both SpaceLabs and HP acknowledge, these devices operate on a secondary basis on channels that are available to other Part 90 licensees for much higher power operation. Currently, Part 90 licensees may operate fixed or mobile communications systems, with up to 2 watts power, on the same channels SpaceLabs and HP would now seek to preserve for essentially "primary" use by very low power medical telemetry devices.

Instead of an outright ban on the use of boosters in this band, or restrictions that would require Part 90 licensees to receive concurrence from hospital facilities before using these channels for land mobile operations, UTC recommends that the effective date for the use of boosters in the 450-470 MHz band be set at 90 days following publication of the Report and Order in the Federal Register in order to provide an opportunity for HP, SpaceLabs, and other potentially affected parties to adjust to the potential deployment of these devices. In addition, with the registration procedures recommended above by UTC

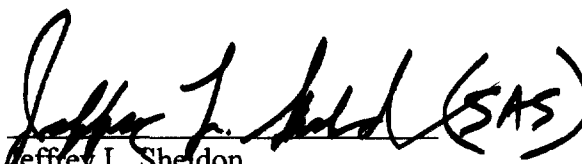
and others, hospitals, health care facilities, and the manufacturers of these devices will have the ability to learn of potential booster deployment in their areas of operation and factor that into their operating plans.

Conclusion

WHEREFORE, THE PREMISES CONSIDERED, UTC respectfully requests the Commission to increase the power limits for booster devices, adopt a registration/notification process to aid in resolving potential interference cases, and permit use of boosters in all of the proposed bands, subject to a reasonable delay in the 450-470 MHz band to permit hospitals an opportunity to adjust to the potential deployment of signal boosters in this band.

Respectfully submitted,

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